OIPE
60125
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Amendments to the Drawings

Proposed replacement drawings are submitted herewith for Figs. 4B and 4C (which are now split into Figs. 4B1 and 4B2, 4C1 and 4C2), 6, 7C, 8A, 9B, 10A - 10C, and 12 to correct problems with margins in accordance with the Draftsperson's review.

In addition, the notation

DN="cn=doctors,ou=groups,o=acme"

is replaced with the notation

DN="cn=medical,ou=groups,o=acme"

in Figs. 4B1 and 4C1. That is, "doctors" is replaced with "medical". This aligns the terminology in the figures with the text on Page 46, line 10 of the specification as originally filed.

No new matter is introduced with these proposed replacement drawings, all of which are supported by the specification and drawings as originally filed.

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420

```
<? xml version="1.0"  encoding ="UTF-8" ?>
<!DOCTYPE record SYSTEM "ldap://acmecorp.com/cn=personnel,ou=dtd,o=acme?xmlProperty" >

<encrypt:class name="1" type="3DES" len="168" tempkey="MjdqcmhlQHVzLmlibS5jb20xRzB">
<encrypt:key DN="cn=managers,ou=groups,o=acme" KeyIdentifier="MIIGEjCCBbygAwIBAgIKFZrHywAQ"
Ekey="QAAAAAAzANBgkqhkiG9w0BAQUFAD"/>
<encrypt:key DN="cn=E135246,ou=users,o=acme" KeyIdentifier="CSqGSIb3DQEJARYbYm9zc0BicnFQ"
Ekey="QudGlucmFsZWlnaC5pYm0uY29tMQ"/>
<encrypt:key DN="cn=hr,ou=groups,o=acme" KeyIdentifier="DIbQzc0BEYbCicnFSqGS3YJmAR9Q"
Ekey="sGQFlYcmWtMlnaC2u5ZudpYm9Q0u"/>
</encrypt:class>

<encrypt:class name="2" type="BLOWFISH" len="128" tempkey="AHIAcQBuAHQAYgAuAHIAYQ">
<encrypt:key DN="cn=medical,ou=groups,o=acme" KeyIdentifier="QTA5MDMyMDQ0MTZaFw0wMDA5MDI"
Ekey="EgYDVQQLEwdSYWxlaWdoMR"/>
<encrypt:key DN="cn=E135246,ou=users,o=acme" KeyIdentifier="CSqGSIb3DQEJARYbYm9zc0BicnFQ"
Ekey="EwJVUzELMAkGA1UECBMCTk"/>
</encrypt:class>
```

434 444 431 430 432 433 441 440 442

Fig. 4B1

420 (cont'd)

```
<empl_name>
John Q. Smith
</empl_name>
<ser_nbr ">
E135246
</ser_nbr>
<date_of_hire>
01/01/1980
</date_of_hire>
<curr_salary>
422 <encrypt:data class="1">
        3395.00                    423
    </encrypt:data>
</curr_salary>
<medical_condition>
    <encrypt:data class="2">
424     diabetic                   425
    </encrypt:data>
</medical_condition>
```

Fig. 4B2

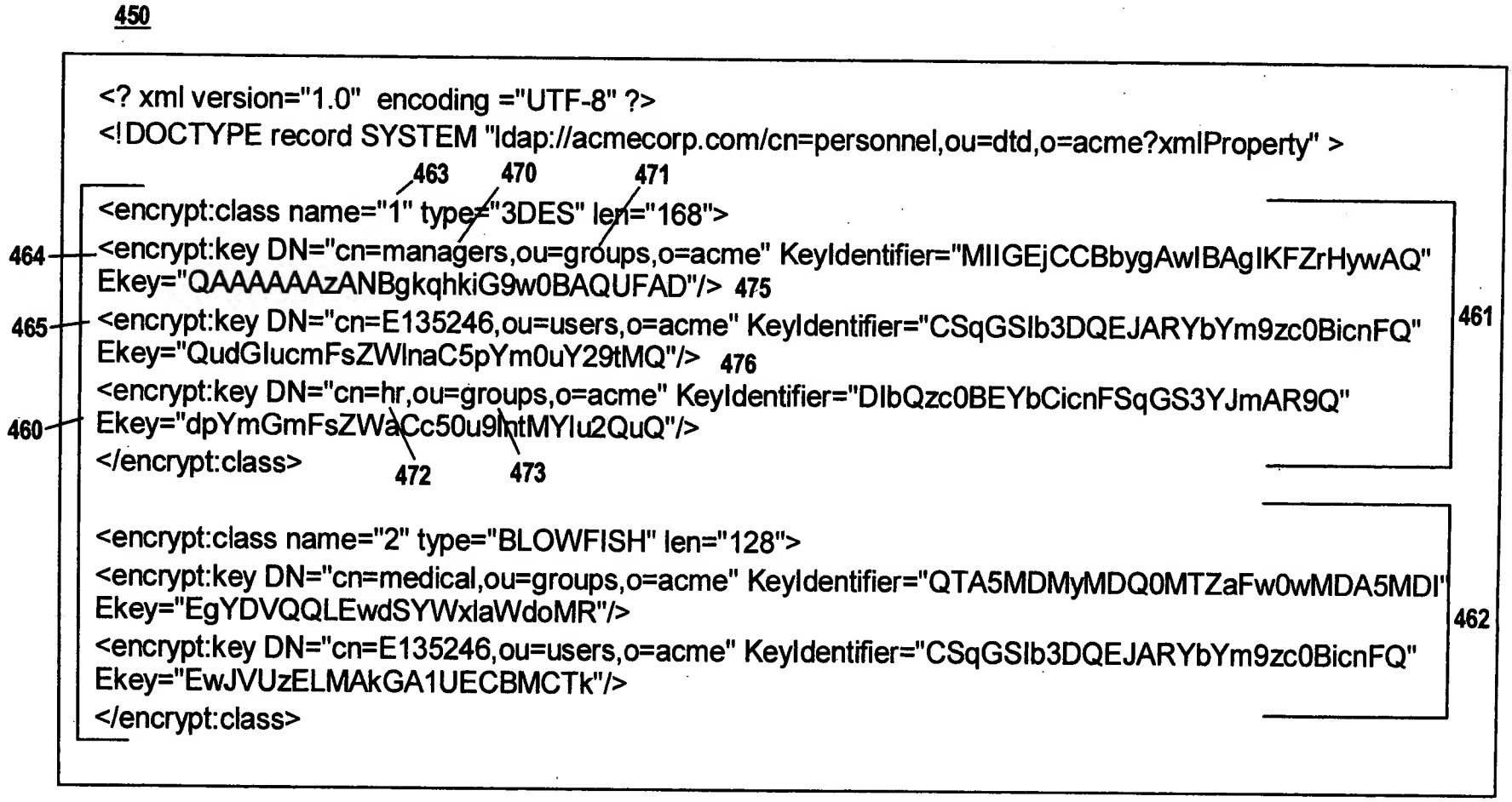

450
<? xml version="1.0" encoding ="UTF-8" ?>
<!DOCTYPE record SYSTEM "ldap://acmecorp.com/cn=personnel,ou=dtd,o=acme?xmlProperty" >
463
470
471
<encrypt:class name="1" type="3DES" len="168">
464
<encrypt:key DN="cn=managers,ou=groups,o=acme" KeyIdentifier="MIIGEjCCBbygAwIBAgIKFZrHywAQ"
Ekey="QAAAAAAzANBgkqhkiG9w0BAQUFAD"/> 475
465
<encrypt:key DN="cn=E135246,ou=users,o=acme" KeyIdentifier="CSqGSIb3DQEJARYbYm9zc0BicnFQ"
Ekey="QudGlucmFsZWlnaC5pYm0uY29tMQ"/> 476
<encrypt:key DN="cn=hr,ou=groups,o=acme" KeyIdentifier="DIbQzc0BEYbCicnFSqGS3YJmAR9Q"
460
Ekey="dpYmGmFsZWaCc50u9IntMYIu2QuQ"/>
</encrypt:class>
472
473
461
<encrypt:class name="2" type="BLOWFISH" len="128">
<encrypt:key DN="cn=medical,ou=groups,o=acme" KeyIdentifier="QTA5MDMyMDQ0MTZaFw0wMDA5MDI"
Ekey="EgYDVQQLEwdSYWxlaWdoMR"/>
462
<encrypt:key DN="cn=E135246,ou=users,o=acme" KeyIdentifier="CSqGSIb3DQEJARYbYm9zc0BicnFQ"
Ekey="EwJVUzELMAkGA1UECBMCTk"/>
</encrypt:class>

Fig. 4C1

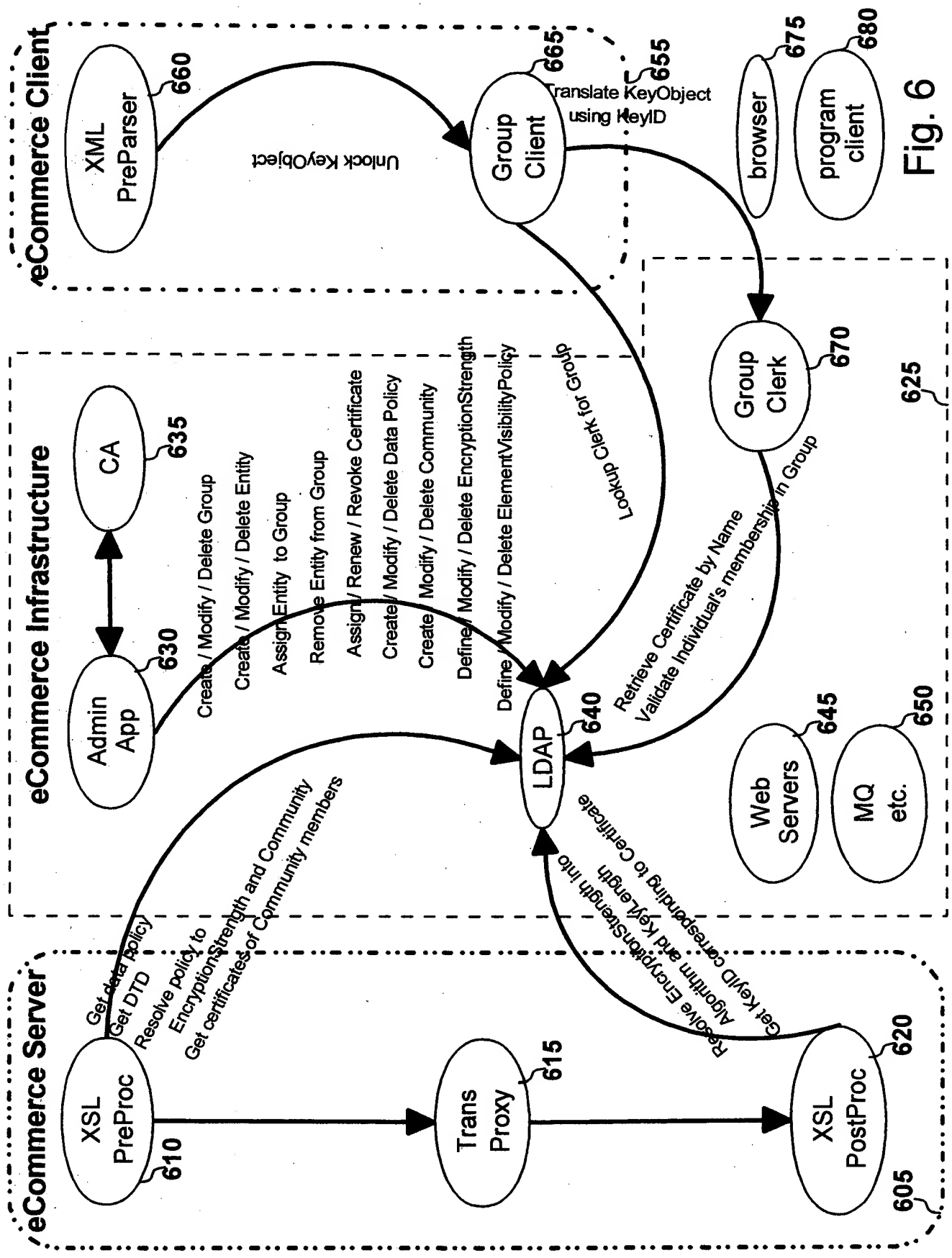
450 (cont'd)

```
<empl_name>
John Q. Smith
</empl_name>
<ser_nbr ">
E135246
</ser_nbr>
<date_of_hire>
01/01/1980
</date_of_hire>
<curr_salary>
    <encrypt:data class="1">
        Ym0uY29tMQ          456
    </encrypt:data>    453
</curr_salary>
<medical_condition>
    <encrypt:data class="2">
        MxDDAKBgNVB
    </encrypt:data>    455
</medical_condition>
```

452

454

Fig. 4C2


eCommerce Client
XML PreParser
660
Unlock KeyObject
Group Client
665
Translate KeyObject using KeyID
655
browser
675
program client
680
eCommerce Infrastructure
CA
635
Admin App
630
Create / Modify / Delete Group
Create / Modify / Delete Entity
Assign Entity to Group
Remove Entity from Group
Assign / Renew / Revoke Certificate
Create / Modify / Delete Data Policy
Create / Modify / Delete Community
Define / Modify / Delete EncryptionStrength
Define / Modify / Delete ElementVisibilityPolicy
Lookup Clerk for Group
Group Clerk
670
625
Retrieve Certificate by Name
Validate Individual's membership in Group
LDAP
640
Web Servers
645
MQ etc.
650
eCommerce Server
XSL PreProc
610
Get data policy
Get DTD
Resolve policy to EncryptionStrength and Community
Get certificates of Community members
Trans Proxy
615
Resolve EncryptionStrength into Algorithm and KeyLength
Get KeyID corresponding to Certificate
XSL PostProc
620
605
Fig. 6

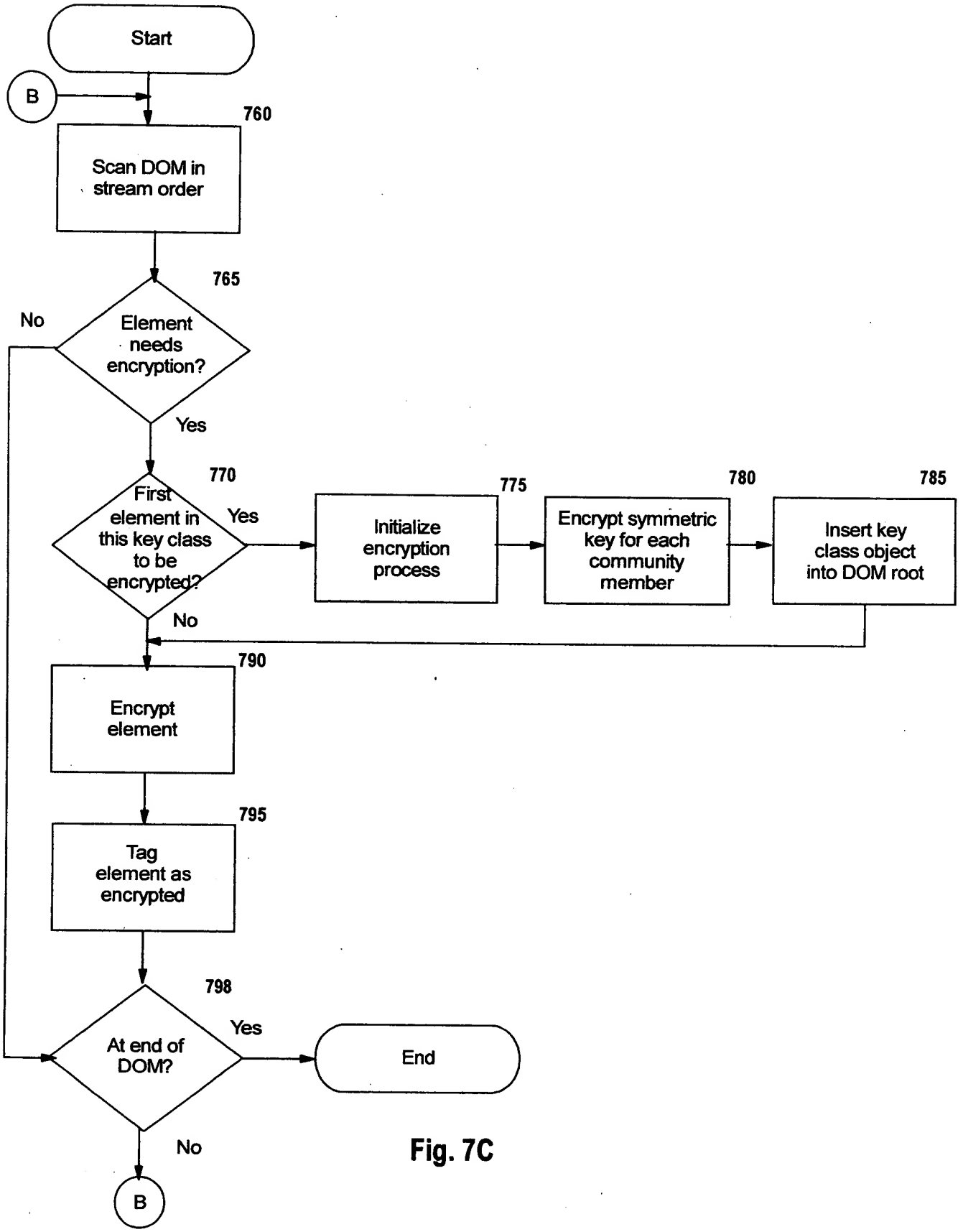

Start
B
760
Scan DOM in stream order
765
Element needs encryption?
No
Yes
770
First element in this key class to be encrypted?
Yes
No
775
Initialize encryption process
780
Encrypt symmetric key for each community member
785
Insert key class object into DOM root
790
Encrypt element
795
Tag element as encrypted
798
At end of DOM?
Yes
End
No
B

Fig. 7C

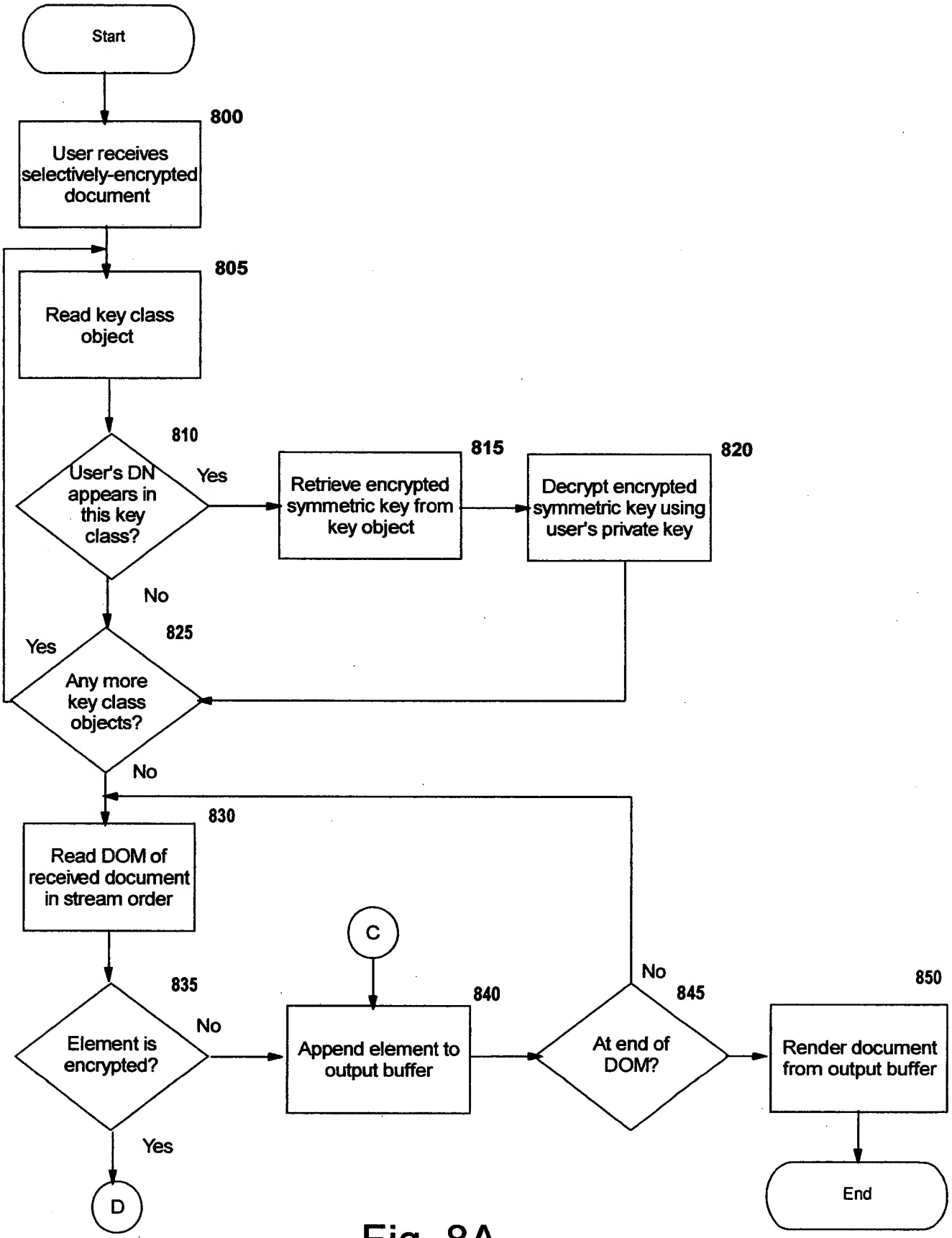

Start
800
User receives selectively-encrypted document
805
Read key class object
810
User's DN appears in this key class?
Yes
815
Retrieve encrypted symmetric key from key object
820
Decrypt encrypted symmetric key using user's private key
No
825
Yes
Any more key class objects?
No
830
Read DOM of received document in stream order
C
835
Element is encrypted?
No
840
Append element to output buffer
No
845
At end of DOM?
850
Render document from output buffer
Yes
D
End

Fig. 8A

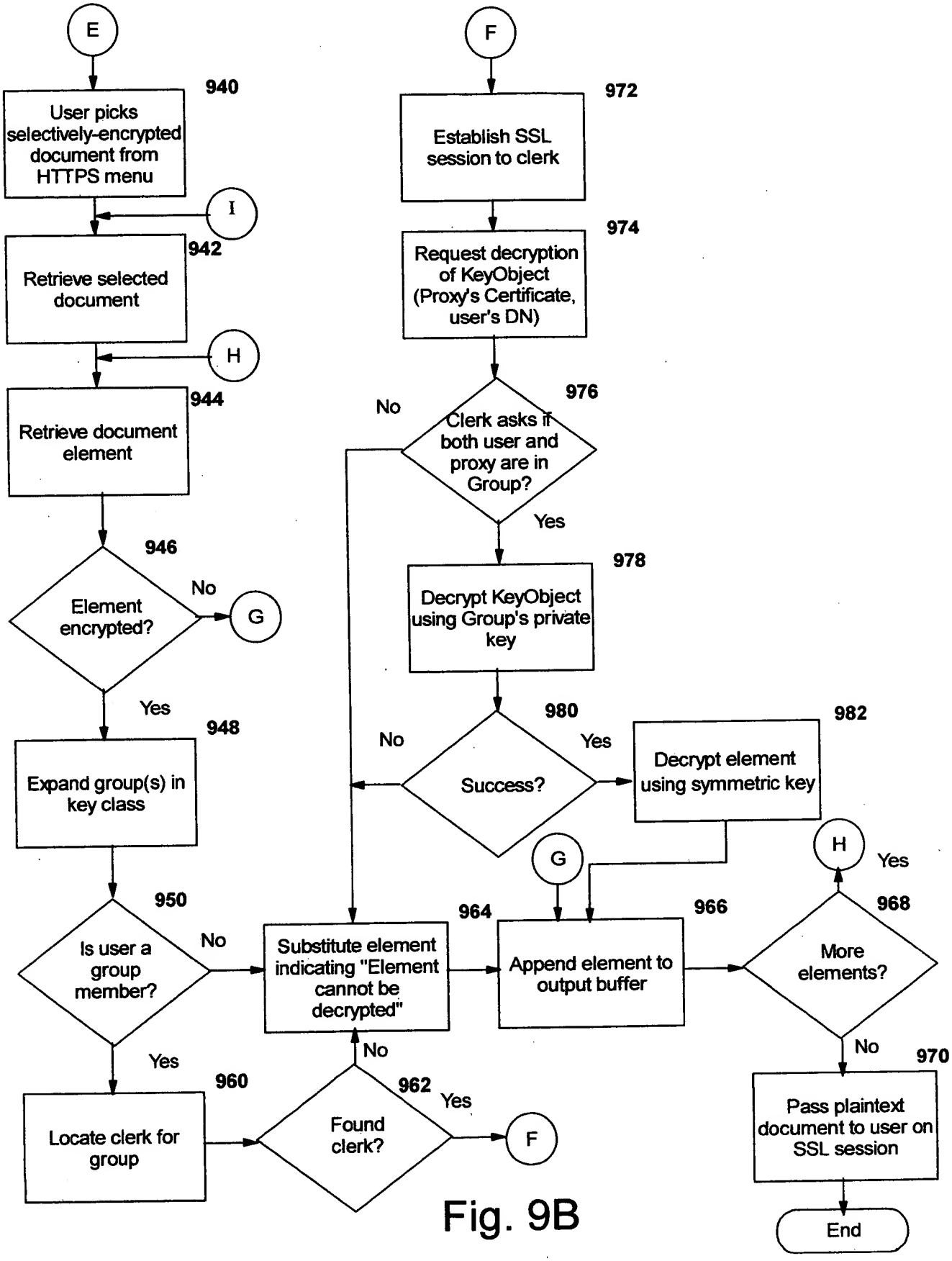

E
940
User picks selectively-encrypted document from HTTPS menu
I
942
Retrieve selected document
H
944
Retrieve document element
946
Element encrypted?
No
G
Yes
948
Expand group(s) in key class
950
Is user a group member?
No
Yes
960
Locate clerk for group
962
Found clerk?
No
Yes
F
964
Substitute element indicating "Element cannot be decrypted"
966
Append element to output buffer
968
More elements?
Yes
H
No
970
Pass plaintext document to user on SSL session
End
F
972
Establish SSL session to clerk
974
Request decryption of KeyObject (Proxy's Certificate, user's DN)
976
Clerk asks if both user and proxy are in Group?
No
Yes
978
Decrypt KeyObject using Group's private key
980
Success?
No
Yes
982
Decrypt element using symmetric key
G

Fig. 9B

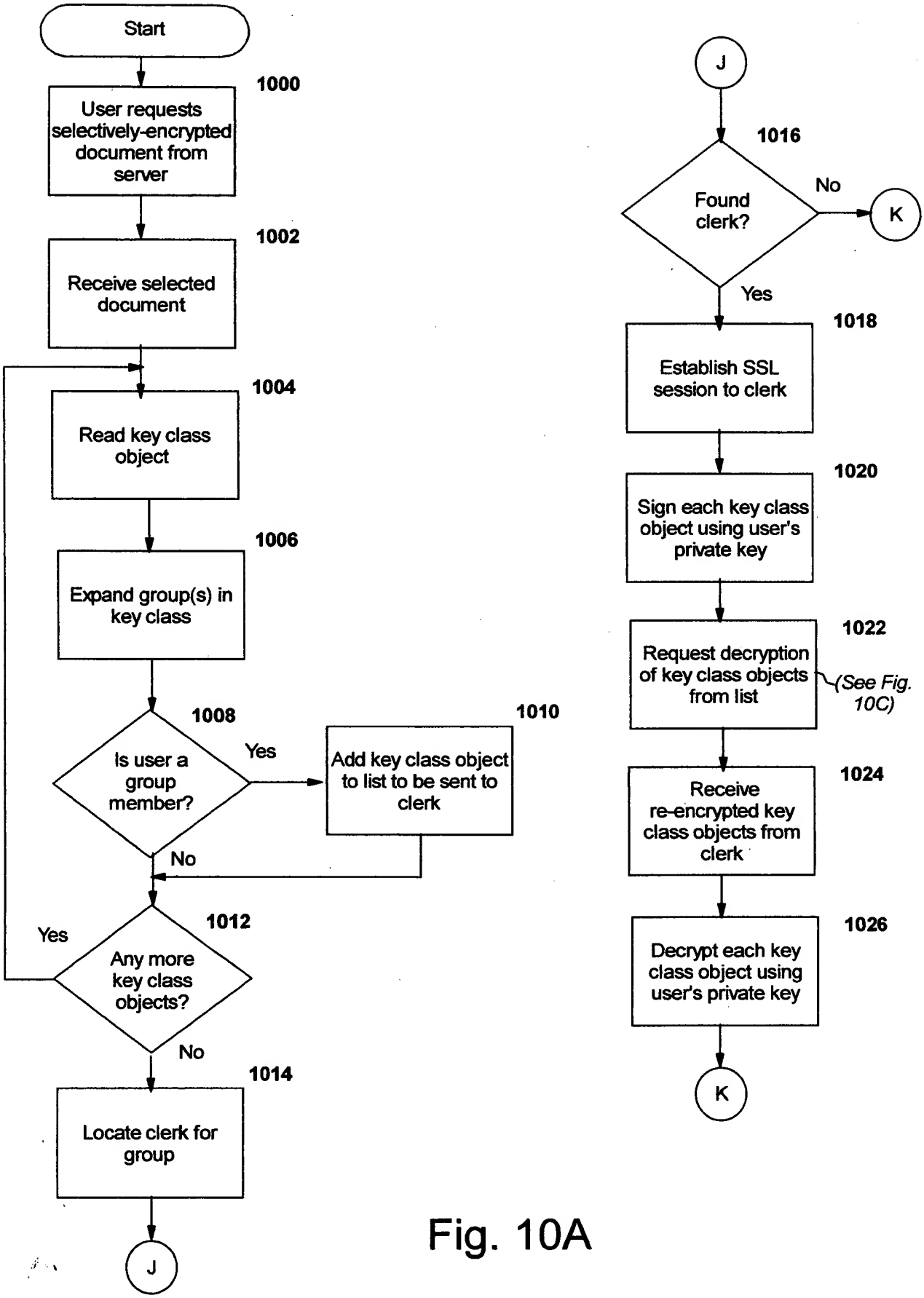

Start
1000
User requests selectively-encrypted document from server
1002
Receive selected document
1004
Read key class object
1006
Expand group(s) in key class
1008
Is user a group member?
Yes
1010
Add key class object to list to be sent to clerk
No
1012
Any more key class objects?
Yes
No
1014
Locate clerk for group
J
J
1016
Found clerk?
No
K
Yes
1018
Establish SSL session to clerk
1020
Sign each key class object using user's private key
1022
Request decryption of key class objects from list
(See Fig. 10C)
1024
Receive re-encrypted key class objects from clerk
1026
Decrypt each key class object using user's private key
K

Fig. 10A

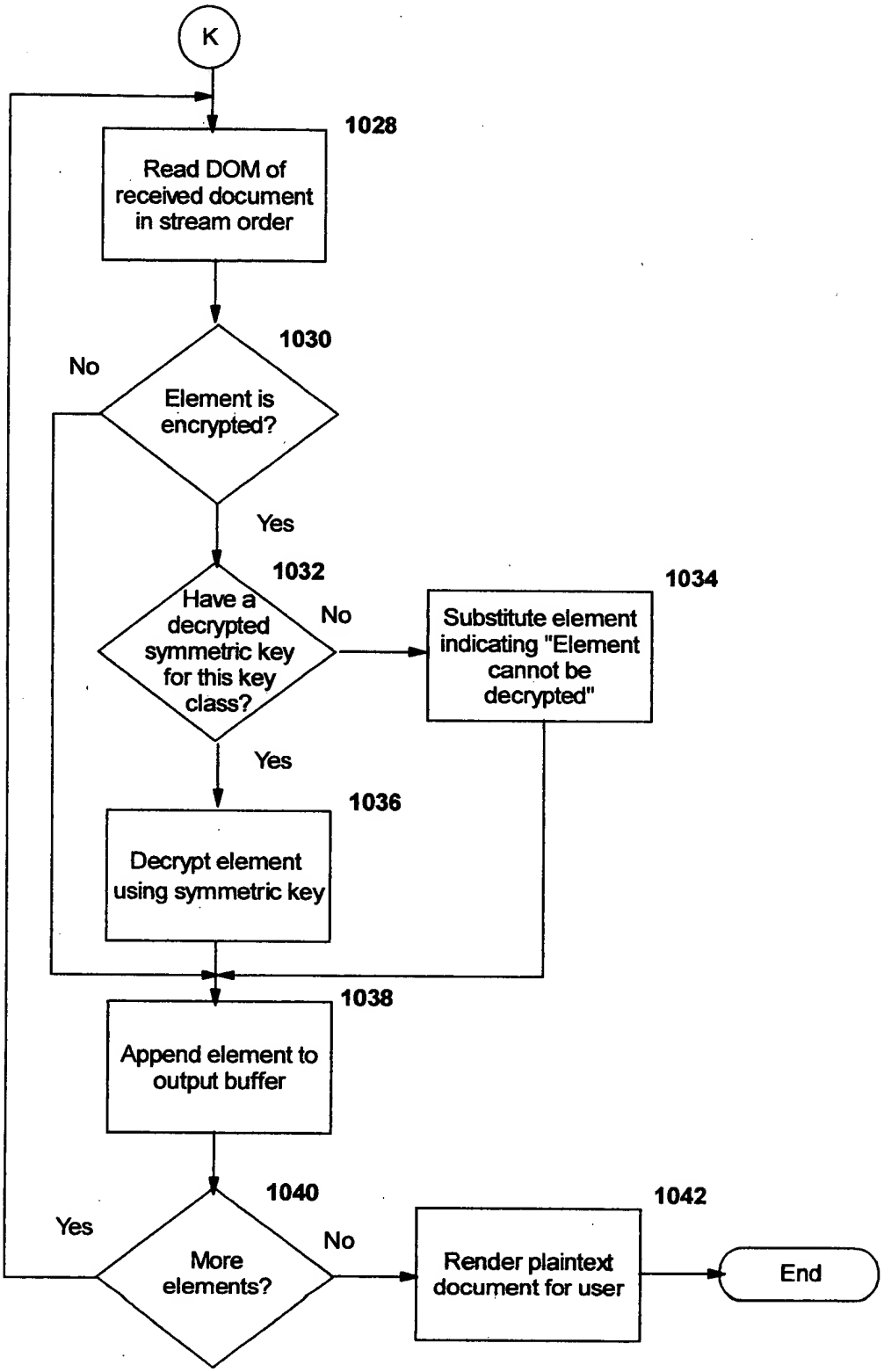

K
1028
Read DOM of received document in stream order
1030
No
Element is encrypted?
Yes
1032
Have a decrypted symmetric key for this key class?
No
1034
Substitute element indicating "Element cannot be decrypted"
Yes
1036
Decrypt element using symmetric key
1038
Append element to output buffer
1040
Yes
More elements?
No
1042
Render plaintext document for user
End

Fig. 10B

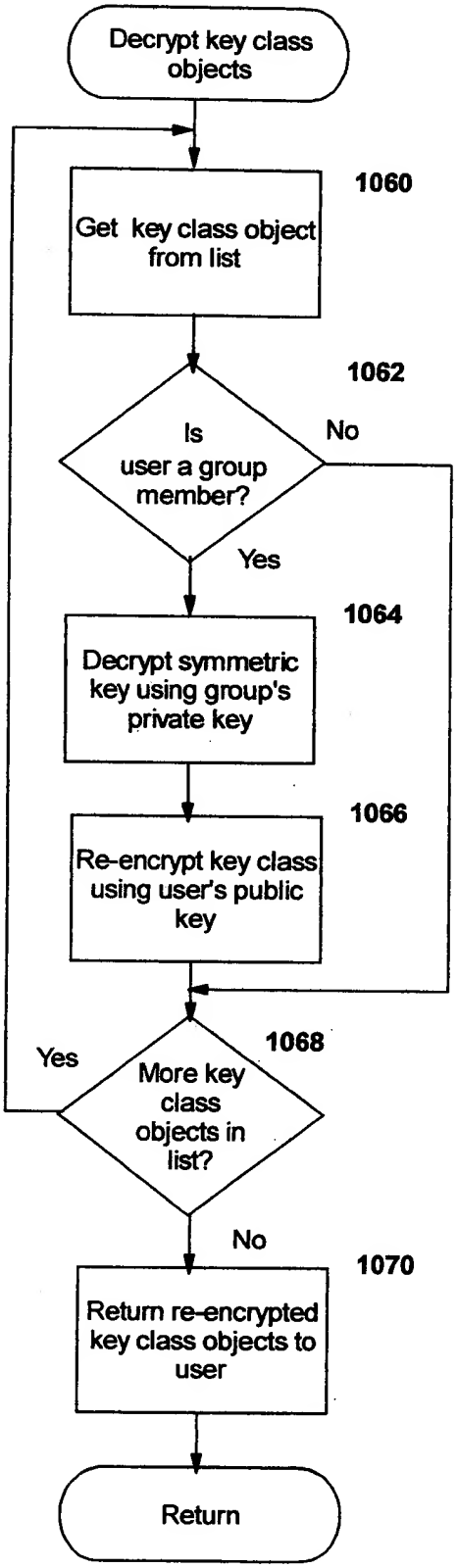

Decrypt key class objects
1060
Get key class object from list
1062
Is user a group member?
No
Yes
1064
Decrypt symmetric key using group's private key
1066
Re-encrypt key class using user's public key
1068
Yes
More key class objects in list?
No
1070
Return re-encrypted key class objects to user
Return

Fig. 10C

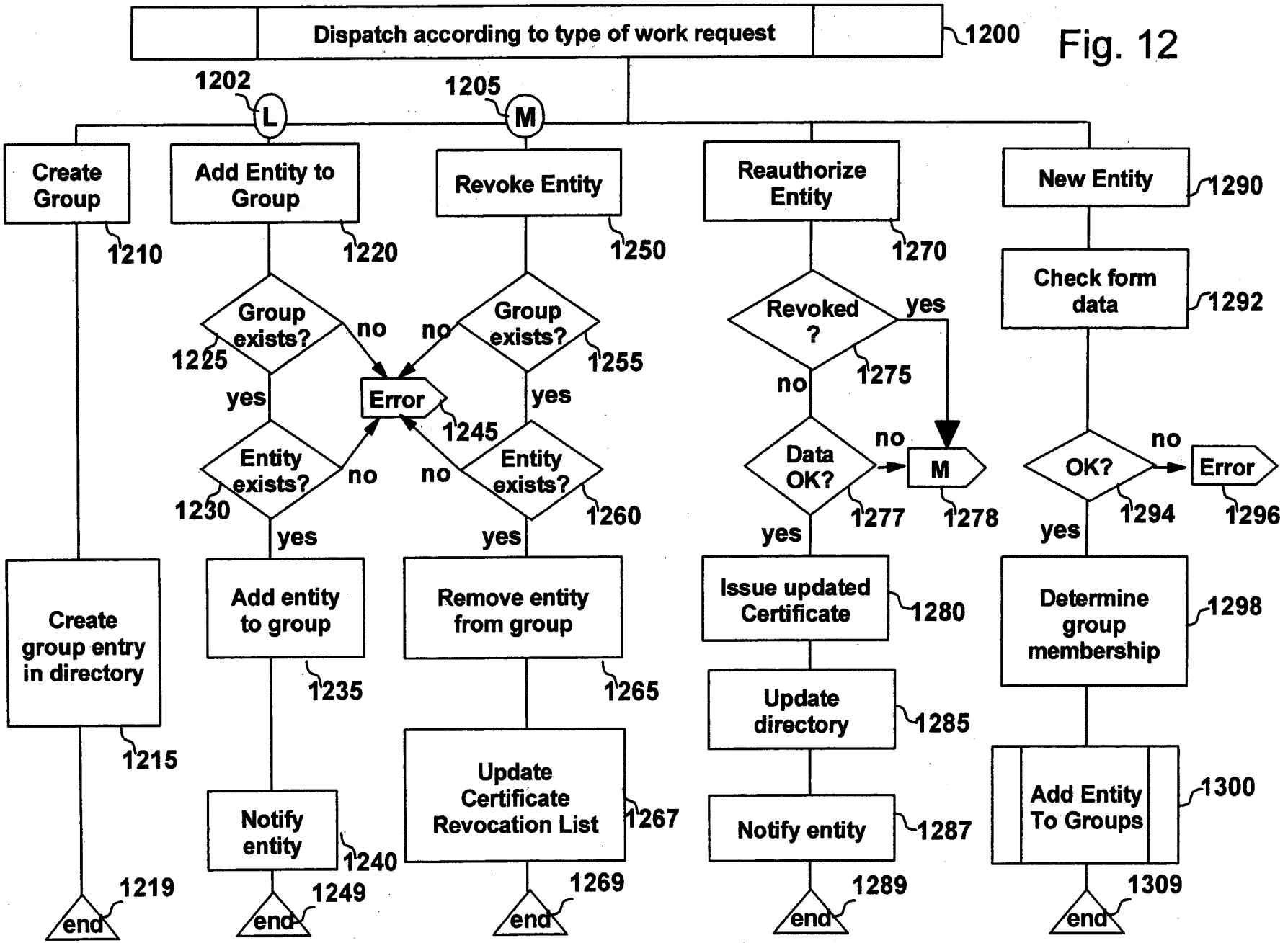

Dispatch according to type of work request
1200
1202
L
1205
M
Create Group
1210
Add Entity to Group
1220
Revoke Entity
1250
Reauthorize Entity
1270
New Entity
1290
Group exists?
1225
no
yes
Error
1245
Entity exists?
1230
no
yes
Add entity to group
1235
Notify entity
1240
1249
end
Group exists?
1255
no
yes
Entity exists?
1260
no
yes
Remove entity from group
1265
Update Certificate Revocation List
1267
1269
end
Revoked ?
1275
yes
no
Data OK?
1277
no
M
1278
yes
Issue updated Certificate
1280
Update directory
1285
Notify entity
1287
1289
end
Check form data
1292
OK?
1294
no
Error
1296
yes
Determine group membership
1298
Add Entity To Groups
1300
1309
end
Create group entry in directory
1215
1219
end

Fig. 12